

## ANNEX 6

### IMO POSITION ON WRC-2000 AGENDA ITEMS CONCERNING MATTERS RELATED TO MARITIME USE

#### Agenda Item 1.6

*issues related to IMT-2000:*

*1.6.1 review of spectrum and regulatory issues for advanced mobile applications in the context of IMT-2000, noting that there is an urgent need to provide more spectrum for the terrestrial component of such applications and that priority should be given to terrestrial mobile spectrum needs, and adjustments to the Table of Frequency Allocations as necessary*

*1.6.2 identification of a global radio control channel to facilitate multimode terminal operation and world-wide roaming of IMT-2000*

#### **Background**

This agenda item is aimed at satisfying the demand for spectrum anticipated for third generation personal communication systems known generically as IMT-2000 (previously FPLMTS). A number of bands in the range 1 - 3.5 GHz allocated to existing mobile telephone systems or other services have been identified as possible candidates for IMT-2000 expansion.

The bands identified so far have no direct impact on maritime radiocommunications or radionavigation, however, there may be difficulties resulting from the relocation of displaced services. One such example is the proposed use of the aeronautical radionavigation band 2 700 - 2 900 MHz for IMT-2000 systems. Since the use of this band for aeronautical radar is both widespread and continuing for air traffic control purposes, there is the question of relocation of the existing services to consider. The obvious candidate band for relocation of aeronautical radars would be the maritime radionavigation band 2 900 - 3 100 MHz presently used by 10 cm marine radars and racons. However, this would not be acceptable because air traffic radars, and marine radars cannot normally operate in close proximity in the same band without causing harmful interference.

The analysis of candidate IMT-2000 expansion bands in the draft CPM Report notes that although sharing between IMT-2000 and radars is not generally feasible. There may be certain areas of the world where the 2 700 - 2 900 MHz band is not greatly used for aeronautical radionavigation purposes, thereby allowing use of the band for IMT-2000 on a localised basis. This conclusion seems rather premature because no definitive studies have yet been carried out. Interference effects may be expected in both directions: as well as the possibility of hundred of false signals caused by IMT-2000 terminals on radar displays, the personal terminals themselves will be designed for worldwide use which means that they will be sensitive to radar transmissions in areas where localised use of the 2 700 - 2 900 MHz band for IMT-2000 is not available. Receiver blocking or damage to IMT-2000 terminals may be expected in these circumstances. Also, since the terminals will be working over a very wide frequency range deleterious effects should be expected in the vicinity of radars operating in the adjacent maritime radionavigation band.

#### **IMO Position**

IMO opposes any allocations for IMT-2000 from existing spectrum allocated to maritime use. Further, allocations for IMT-2000 uses, both terrestrial and satellite, that are near a radionavigation band in widespread use by radars could degrade the usefulness of the radionavigation bands and cause deleterious effects on the IMT-2000 terminal units themselves. IMO opposes such allocations until compatibility studies are completed showing that these allocations are acceptable.

**WRC-2000 Agenda Item 1.7**

*review of the use of the HF bands by the aeronautical mobile (R) and maritime mobile services with a view to protecting the operational, distress and safety communications, taking into account Resolution 346 (WRC-97)*

**Background**

The purpose of this agenda item is to consider the use of the HF bands for high priority communications particularly as regards the protection of essential communications from harmful interference. HF channels are designated for various operational and distress and safety purposes by ships and coast stations in Article S52 and appendices S13, S15 and S17 of the Radio Regulations.

Concern has been expressed in IMO for many years at the harmful interference being caused on the HF GMDSS radiotelephone distress and safety communication frequencies 12 290 and 16 420 kHz and after a number of attempts the problem has been brought to a WRC for action. The problem arises because of the anomaly whereby the ship transmit frequencies of international radio telephone channels 1221 (ship transmit 12 290 kHz, ship receive 13 137 kHz) and 1621 (ship transmit 16 420 kHz, ship receive 17 302 kHz) are also designated as GMDSS radiotelephony channels for distress and safety purposes. The peculiar circumstance that these frequencies may also be used legitimately as ship transmit frequencies for general calling has resulted in considerable disruption to distress and safety traffic. The existence of interference to 12 290 and 16 420 kHz, together with disruption to the radiotelephony distress and safety frequency 8 291 kHz was first noted at COM40 and subsequently publicised in COM/Circ.119. A revised Circular COMSAR/Circ.6 was developed following further discussion at COMSAR 1.

The issue was examined during the 1997 World Radiocommunication Conference and Resolution 346 (WRC-97) “*Protection of distress and safety communications on the frequencies 12 290 kHz and 16 420 kHz from harmful interference caused by these frequencies being used also for non-safety calling*” was developed, which repeated the call made in COMSAR/Circ.6 for administrations to move their coast station calling channels from the channels 1221 and 1621 to any other suitable HF channel.

More recently there have been a number of reports of more generalised interference to maritime and aeronautical communications in the HF bands. The problem is widespread in the Asia-Pacific region where interference on all channels between 3 and 16 MHz occurs daily at different times, varying in intensity and duration. Monitoring observations have been carried out in the region in the bands allocated exclusively to the maritime mobile service between 4063 and 27 500 kHz and these show that a number of frequencies in these bands are still being used by stations of other services. Many instances of interference are, however, caused by licensed stations of the maritime and aeronautical mobile services which are operating in contravention of Radio Regulations.

Interference to maritime HF communications may be reported under Article S15 of the Radio Regulations, however, such action has not proved to be effective and, if anything, the interference has continued to increase.

**IMO Position**

IMO re-affirms its opinion that the frequencies 12 290 and 16 420 kHz should only be used for distress and safety communications and allocated solely for such purpose by means of modification to the relevant parts of the Radio Regulations. IMO also supports efforts to reduce inappropriate use of the HF bands through improved regulatory procedures to safeguard distress and safety communications.

**WRC-2000 Agenda Item 1.8**

*to consider regulatory and technical provisions to enable earth stations located on board vessels to operate in the fixed-satellite service networks in the bands 3 700 - 4 200 MHz and 5 925 - 6 425 MHz, including their co-ordination with other services allocated in these bands;*

**Background**

This agenda item seeks to permit the use of earth stations operating in the bands 3 700 - 4 200 MHz (space-to-Earth) and 5 925 - 6 425 MHz (Earth-to-space) on board ships as part of the fixed satellite service rather than the maritime mobile-satellite service. This agenda item on 'C' Band earth stations, as they are commonly known, was introduced at WRC-97.

The advantage for the maritime community is that it is possible to gain access to relatively low cost broadband communication facilities using existing frequencies and space segments in the fixed-satellite service. Shipowners could benefit from the resulting possibilities for wideband communications which, moreover, can be operated with considerable cost savings over the current maritime satellite systems. The main uses are telephone links for passengers on cruise liners and ferries. There are also a number of applications for ships that need to transfer large amounts of data to shore. The offshore oil industry is a prime example, especially as regards survey ship operations where real-time analysis ashore of data collected on-board ship becomes possible without the cost of the satellite link being a major limitation.

Typically, these links make use of the Intelsat network of geostationary satellites which can provide a relatively cheap high-bandwidth path. There is however some loss in flexibility of use since there is no provision in such systems for on-demand service availability on connection. Instead use of a satellite transponder has to be pre-arranged on a permanent or a regular timeslot basis from the ship via a particular ground station into the public or a private telecommunications network.

However, preliminary examination of this issue has revealed a number of operational and legal issues that must be addressed arising from potential for interference to other services allocated in these bands.

**IMO Position**

IMO supports the orderly introduction of these bands for maritime mobile use when regulatory and technical provisions are accommodated.

**WRC-2000 Agenda Item 1.9**

*to take into account the results of ITU-R studies in evaluating the feasibility of an allocation in the space-to-Earth direction to the mobile-satellite service in a portion of the 1 559 - 1 567 MHz frequency range, in response to Resolutions 213 and 220 (WRC-97)*

**Background**

The importance of this issue for maritime radiocommunications is that the band 1 559-1 567 MHz is heavily used for radionavigation purposes by the radionavigation-satellite service (GPS and GLONASS). The wider band 1 559 - 1 610 MHz is also used for important applications in the aeronautical radionavigation service.

The question of an additional allocation to the mobile-satellite service in the band 1 559-1 567 MHz was considered at WRC-97 with the conclusion that no immediate allocation could be made because of uncertainty as to whether the proposed criteria for new mobile-satellite systems in the band 1 559 - 1 567 could guarantee satisfactory sharing between the mobile-satellite and the radionavigation

services. The subject received great attention from both maritime and aeronautical interests because of the need to safeguard the operation of existing radionavigation services and to avoid constraints on the future development of radionavigation services in this band

WRC-97 did, however, adopt Resolution **220 (WRC-97)** in order to initiate further studies into the technical criteria and operational and safety requirements needed to assess the feasibility of sharing between the aeronautical radionavigation and radionavigation-satellite services operating, or planned to operate, in the band 1559 - 1 610 MHz, and the mobile-satellite service in a portion of the band 1 559-1 567 MHz. The intention was that the studies should be available in time for the next WRC to evaluate the feasibility of sharing a portion of the spectrum for new mobile-satellite communication systems.

The further studies have showed considerable doubt about the possibility of successful sharing in this band.

### **IMO Position**

In view of the importance of preserving the integrity of existing radionavigation-satellite systems which are vital to the safe navigation of vessels and the need to avoid constraints on the introduction of new radionavigation systems, IMO is of the opinion that no additional allocation to the mobile-satellite service should be introduced into the band 1559 - 1567 MHz at WRC-2000, and sees no need to continue with further studies.

### **WRC-2000 Agenda Item 1.10**

*to consider results of ITU-R studies carried out in accordance with Resolution **218 (WRC-97)** and take appropriate action on this subject*

### **Background**

This agenda item is of prime importance for IMO since it addresses two issues arising from the generic use of satellite L-Band spectrum:

1. the future spectrum requirements for the provision of distress, safety and urgency communications in the GMDSS and aeronautical mobile-satellite (R) service communications with priority 1 to 6 of Article **S44**;
2. the feasibility of prioritisation, real time pre-emptive access and, if necessary, interoperability between different mobile satellite systems for GMDSS and aeronautical mobile-satellite (R) service communications.

Resolution **218 (WRC-97)** on the use of the bands 1525 - 1559 MHz and 1 626.5 - 1 660.5 MHz by the mobile-satellite service was developed at WRC-97 as a result of the allocation of these bands for generic use by the mobile-satellite service, notwithstanding the previous predominate use of the bands 1 530 - 1544 MHz and 1 626.5 - 1 645.5 MHz by the maritime mobile-satellite service for satellite communications in the GMDSS. In addition the bands 1 545 - 1 555 MHz and 1 646.5 - 1 656.5 MHz were allocated to the aeronautical mobile-satellite (R) service on a primary basis.

The stated purpose of the move to a generic allocation for the mobile-satellite service was to facilitate the assignment of spectrum to multiple mobile-satellite systems in a flexible and efficient manner. There was considerable concern that this course of action would prejudice the provision of satellite communications with aircraft and in the GMDSS, particularly in respect of distress and safety traffic.

The outcome at WRC-97 was that the bands 1525 - 1559 MHz and 1 626.5 - 1 660.5 MHz were made generic to the mobile-satellite service. Additional provisions of the Radio Regulations,

Nos. **S5.353A**<sup>1</sup> and **S5.357A**<sup>2</sup>, were added to protect GMDSS and aeronautical uses of these bands and the spectrum requirements for the maritime and aeronautical communities. In addition, the new Resolution **218 (WRC-97)** was adopted which includes a call for urgent studies on methods for determining the spectrum requirements for the GMDSS and aeronautical applications.

### **IMO Position**

IMO expressed concern at WRC-97 and the 1998 ITU Plenipotentiary Conference that the unique requirements of the maritime community had not been recognized and expressed concern about the safeguards to be provided for the maritime satellite service. IMO believes that accommodating the spectrum requirements for maritime distress, urgency and safety communications of the GMDSS in the bands 1 525 - 1 559 MHz and 1 626.5 - 1 660.5 MHz shall be given absolute priority in multilateral co-operation agreements.

IMO notes however the studies that have taken place since WRC-97 on methods of ensuring priority access for distress, urgency and safety communications within a network and with other mobile satellite services. IMO does not consider that inter-system prioritization and pre-emption will be workable and prefers a capacity planning approach. Further action however is necessary within the ITU to demonstrate in a transparent manner that any resulting Spectrum Sharing Arrangements have been developed in compliance with footnote S5.353A.

IMO is therefore of the opinion that WRC-2000 should adopt procedures ensuring that the frequency coordination agreements for mobile satellite networks in the bands mentioned in S5.353A do demonstrably accommodate the spectrum requirements for all GMDSS distress, urgency and safety communications as defined in Articles S32 and S33.

### **WRC-2000 Agenda Item 1.11**

*to consider constraints on existing allocations and to consider additional allocations on a worldwide basis for the non-geostationary MSS below 1 GHz, taking account the results of ITU-R studies conducted in response to Resolutions No. 214 (Rev.WRC-97) and 219 (WRC-97)*

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<sup>1</sup> **S5.353A** In applying the procedures of No. **S9.11A** to the mobile-satellite service in the bands 1 530 - 1 544 MHz and 1 626.5 - 1 645.5 MHz, priority shall be given to accommodating the spectrum requirements for distress, urgency and safety communications of the Global Maritime Distress and Safety System (GMDSS). Maritime mobile-satellite distress, urgency and safety communications shall have priority access and immediate availability over all other mobile satellite communications operating within a network. Mobile-satellite systems shall not cause unacceptable interference to, or claim protection from, distress, urgency and safety communications of the GMDSS. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services. (See Resolution **218 (WRC-97)**.)

<sup>2</sup> **S5.357A** In applying the procedures of No. **S9.11A** to the mobile-satellite service in the bands 1 545 - 1 555 MHz and 1 646.5 - 1 656.5 MHz, priority shall be given to accommodating the spectrum requirements of the aeronautical mobile-satellite (R) service providing transmission of messages with priority 1 to 6 in Article **S44**. Aeronautical mobile-satellite (R) communications with priority 1 to 6 in Article **S44** shall have priority access and immediate availability, by pre-emption if necessary, over all other mobile satellite communications operating within a network. Mobile-satellite systems shall not cause unacceptable interference to, or claim protection from, aeronautical mobile-satellite (R) communications with priority 1 to 6 in Article **S44**. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services. (See Resolution **218 (WRC-97)**.)

## **Background**

Important maritime interests may be affected by the proposals under this agenda item to introduce non-geostationary mobile-satellite systems in the band 405 - 406 MHz, which is part of the band 401-406 MHz currently allocated to the meteorological aids service and adjacent to the band 406 - 406.1 MHz used by the COSPAS-SARSAT system.

The COSPAS-SARSAT system is essential to the operation of the GMDSS. The COSPAS and SARSAT networks of low-altitude polar-orbiting satellites are able to receive distress alerts transmitted from 406 MHz EPIRBs at any location at sea. The relevant information is then relayed to SAR authorities via local user terminals and mission control centres. Because the system operates with very low signal levels it is very sensitive to interference and must therefore be protected to the maximum extent possible. If an EPIRB transmission cannot be processed correctly at the first opportunity, it will be necessary to wait for another satellite pass thus delaying the activation of search and rescue services.

There is also a direct and immediate interest to the maritime community in the operation of meteorological aids in the frequency bands 400.15 - 406 MHz. These are essential to making upper air measurements for a number of important applications - weather forecasting and environmental monitoring, in particular. These vital measurements are made by radiosondes operating in the meteorological aids service. Many tens of thousands of radiosondes are launched every year now, which represents a considerable increase in use over the past decade.

At WRC-97 there were several proposals for an additional primary allocation for the mobile-satellite service in the band 405 - 406 MHz. These proposals were strongly opposed by the majority of countries throughout the world on account of the use of the entire frequency band 401 - 406 MHz for vital meteorological services. Since current radiosondes do not allow for spectrum use based on band segmentation, the conclusions were that it was premature to allocate even 1 MHz of spectrum to the mobile-satellite service and that the entire 5 MHz would still be needed for the use by the meteorological services.

Consequently, no spectrum was made available at WRC-97 and Resolution **219 (WRC-97)** was developed to cover further studies on the issue in collaboration with the WMO.

The main purpose of Resolution **219 (WRC-97)** was to cover studies into the possible transition of the meteorological aids service out of the band 405 - 406 MHz in favour of a new allocation to the mobile-satellite service in that band. Furthermore, the Resolution called for studies on the impact of unwanted emissions on the primary services, notably COSPAS-SARSAT, allocated in the adjacent bands.

Under the cover of Resolution **219 (WRC-97)** proposals to introduce non-geostationary mobile-satellite systems in the band 405-406 MHz will again be brought forward at WRC-2000. However, the results of technical analyses and studies carried out in respect of the Resolution do not justify a different conclusion from WRC-97 despite the case made for urgently needed spectrum for additional mobile-satellite services below 1 GHz.

All of the band 403 - 406 MHz is needed to secure the existing radiosonde operations, and there is actually an increase in the requirements for meteorological aids operations for weather forecasting, research, environmental and defence applications. In addition there are also increasing requirements for the earth exploration-satellite and meteorological services in the band 401 - 403 MHz. It does not therefore appear feasible to accommodate all these requirements if meteorological aids have to be transferred out of the band 405-406 MHz in favour of an allocation to the mobile-satellite service. Also, since the band is needed in the future for meteorological aids there is no further purpose in considering transition plans as envisaged in Resolution **219 (WRC-97)**.

More importantly for preserving the integrity of the GMDSS, the resulting studies have led to proposals to tighten the current limits for the protection of COSPAS-SARSAT receivers. The very stringent protection requirements that have been established for the COSPAS and SARSAT search and rescue signal processors would, in any event, reduce the spectrum available to the mobile-satellite service in the band 405 - 406 MHz by up to 14%.

### **IMO Position**

Noting that there are maritime allocations (including distress and safety) existing below 1 GHz, IMO recommends that any new MSS allocations shall afford due protection to these maritime allocations.

IMO strongly opposes an additional allocation to the mobile-satellite service in the band 405 - 406 MHz and supports the maintenance of the current allocations in order to:

1. protect the proven life-saving capabilities of the COSPAS-SARSAT system in the adjacent band 406 - 406.1 MHz;
2. protect the meteorological aids service, in view of the importance of accurate weather forecasting for safety and commerce; and
3. enable the earth-exploration and meteorological-satellite services and the meteorological aids service to meet increasing service requirements, in particular for weather forecasting, environmental monitoring and pollution control.

### **WRC-2000 Agenda Item 1.15**

*issues related to the radionavigation-satellite service:*

#### **Background**

This agenda item deals with various aspects of how the radionavigation-satellite service should develop in the future. The existing service has developed out of a need to provide position information for military purposes and was not planned to provide the numerous civil applications that have since been able to exploit certain elements of the military systems. This has resulted in demands to augment existing systems or introduce new systems that are specifically designed to respond to the growth in civil applications and needs.

**1.15.1** *to consider new allocations to the radionavigation-satellite service in the range from 1 to 6 GHz required to support developments;*

Extensive work has been carried out in the ITU Study Groups. Attention is now focused on four bands where additional spectrum may be available to support future development of the radionavigation-satellite service, namely:

in the space-to-Earth direction

- 960 - 1 215 MHz
- parts of the band 5 000 - 5 150 MHz

in the space-to-Earth direction

- 1 300 - 1 350 MHz
- 5 000 - 5 030 MHz

Some sharing and compatibility problems remain to be resolved; however, there should be no adverse effects on maritime services. With the exception of some frequencies used for landing and approach aids on aircraft carriers, none of these candidate bands affect existing maritime radiocommunications or radionavigation systems.

### **IMO Position**

IMO supports the implementation of new allocations for use with radionavigation-satellite systems given the importance of reliable navigational aids for enhancing the economic and safety aspects of shipping.

#### ***1.15.2 to consider the addition of the space-to-space direction to the radionavigation-satellite service allocations in the bands 1 215 - 1 260 MHz and 1 559 - 1 610 MHz;***

This agenda item deals with the addition of an allocation in the space-to-space direction to complement the present allocation in the bands 1 215 - 1 260 MHz and 1 559 - 1 610 MHz to the radionavigation-satellite service in the space-to-Earth direction.

Two radionavigation satellite systems, GPS and GLONASS, currently use the bands 1 215 - 1 260 MHz and 1 559 - 1 610 MHz. Several satellite networks (e.g. TOPEX/Poseidon, AMSAT-3D, Orbcomm, Globalstar and IKONOS-1) make use of GPS signals to establish position and time references essential to the proper functioning of these networks. There are also plans to use signals from the GPS and GLONASS satellites in the control of a range of space based applications.

The use of these radionavigation-satellite signals is presently protected only through a frequency allocation in the space-to-Earth direction, meaning that the reception of these signals on board other orbiting satellites has no normal protection. The addition of an allocation in the space-to-space direction would give protection to navigation systems on board scientific satellites, Earth-observation satellites, communications satellites and manned spacecraft.

It is necessary to provide the additional direction in both of the bands 1 215 - 1 260 MHz and 1 559 - 1 610 MHz because of ionospheric scintillation effects.

### **IMO position**

In view of the importance of many existing and planned satellite systems for maritime purposes, notably communications and weather forecasting, IMO supports a space-to-space allocation subject to the application of appropriate safeguards for existing radionavigation-satellite networks in the space-to-Earth direction.

IMO is of the opinion that the option A identified in the draft CPM Report would give the most freedom for the further development of radionavigation satellite applications. Option A involves the addition of the space-to-space direction to the radionavigation-satellite service (space-to-Earth) allocation in the bands 1 215 - 1 260 MHz and 1 559 - 1 610 MHz, coupled with a provision indicating that no protection should be given to spaceborne radionavigation-satellite receivers from radionavigation-satellite systems already operating in these bands or for which advance publication information is received by the ITU Radiocommunication Bureau, prior to the end of WRC-2000.



**1.15.3** *to consider the status of allocations to services other than the radionavigation-satellite (S5.355 and S5.359) in the band 1 559 - 1 610 MHz;*

The band 1 559 - 1 610 MHz is allocated on a primary basis to the radionavigation-satellite service and the aeronautical radionavigation service. In addition, allocations to the fixed service are made through two provisions of the Radio Regulations, Nos. **S5.355** and **S5.359**, which respectively provide for an allocation to the fixed service on a secondary basis in 27 countries and on a primary basis to 47 countries.

The importance of this issue is the possible degradation caused to radionavigation-satellite services operating in this band, notably GPS, from other services that are permitted to make use of these bands.

In the case of transmissions in the fixed service, however, experience has shown that harmful interference to GPS reception is a real danger. Analysis of the problem shows radionavigation-satellite receivers are unable to tolerate co-frequency interference from transmissions in the fixed service within radio line-of-sight. Typically, this means that land-based GPS receivers in the main beam of a fixed service transmitter's antenna will experience harmful interference out to a distance of 50 km and out to 400 km distance in the case of aircraft receivers. For the case of non co-frequency transmissions in the fixed service, there is evidence to show that fixed service transmissions in and to either side of the band 1559-1610 MHz will cause interference to radionavigation-satellite receivers operating in the band 1559-1610 MHz up to 100 m away from the fixed service transmitter.

### **IMO Position**

IMO supports removing the fixed service use of the band 1559 - 1610 MHz in order to protect present and future applications in the radionavigation-satellite service.

### **WRC-2000 Agenda Item 1.18**

*to consider the use of new digital technology for the maritime mobile service in the band 156 - 174 MHz and consequential revision of Appendix 18/S18, taking into account Resolution 342 (WRC-97)*

### **Background**

A similar agenda item on the use of new digital technology in the maritime radiotelephony channels was considered at the 1997 World Radiocommunication Conference. This item was considered in recognition of the pressure on maritime radio spectrum to provide additional capacity to accommodate new services and to meet the changing demand for radiocommunications. Because there seemed little likelihood of any new spectrum being made available for maritime VHF use, especially since there are similar demands for additional spectrum to meet the demand in the land mobile sector, it was considered that a better alternative would be to adopt new technologies that could support new services and provide more efficient use of the spectrum.

Studies in ITU-R Study Group 8 have been in progress for a number of years, going back to Recommendation **318 (Mob-87)** which called for urgent studies into the most appropriate means of promoting a more efficient use of the frequency spectrum in the VHF maritime mobile band. The most likely solution to the problems of congestion identified in the present use of Appendix **S18** was seen to be the adoption of technologies already implemented in the land mobile service. However, in order not to disrupt the provision of distress and safety services in the VHF band there was general acceptance that the adoption of new technologies would require a lengthy phasing-in period.

However, in the absence of any proposals at WRC-97, there was no major substantive action in respect of the VHF bands. Changes were introduced into Appendix **S18** to provide administrations with the flexibility to address any immediate problems of local congestion. In particular a note was added to Appendix **S18** to allow the use of 12.5 kHz channel interleaving on a non-interference basis to the use of the standard 25 kHz channels by other administrations and international shipping. In the main though, further consideration of this aspect was effectively postponed until the next Conference (WRC-2000) by means of Resolution **342 (WRC-97)**. This Resolution advocated that ITU-R should undertake thorough research into the future utilisation of maritime VHF communications and the suitability of different technologies to meet future requirements.

### **IMO Position**

IMO supports in general the need to make the most efficient use of the maritime VHF band, but stresses that;

1. the introduction of new technologies should take into account the global use of maritime VHF equipment; and
2. new equipment utilizing digital technology must, in addition, be able to handle the existing system, especially for distress and safety purposes.

### **WRC-2000 Agenda Item 2**

*to examine the revised ITU-R Recommendations incorporated by reference in the Radio Regulations which have been communicated by the 1999 Radiocommunication Assembly, in accordance with Resolution **28 (WRC-95)**; and decide whether or not to update the corresponding references in the Radio Regulations, in accordance with principles contained in the Annex to Resolution **27 (Rev.WRC-97)***

### **Background**

The concept of incorporation by reference is also employed by IMO.

In accordance with the provisions of Resolution **28 (WRC-95)** and Resolution **27 (Rev.WRC-97)**, each WRC now has to devote time to ensuring that references are up to date because the various Study Groups of the ITU Sectors routinely propose revisions to ITU-R Recommendations that have already been incorporated by reference and, in response to WRC agenda items, generate new Recommendations for incorporation by reference. It was therefore envisaged at WRC-97 to have a standing agenda item for all future WRCs to carry out this essential work. Because of the number of ITU-R Recommendations dealing with the design and operation in the maritime mobile and maritime mobile-satellite service the task of ensuring that references are kept up to date is of direct interest to the IMO.

The concept has failed to provide the practical benefit originally envisaged of simplifying or reducing the volume of the Radio Regulations.

The status of incorporation by reference has been discussed during the VGE work and at WARC-92. However, there was no firm conclusion and, despite many requests, no definitive opinion emerged from the ITU legal service as to whether text incorporated by reference is an obligatory part of the Radio Regulations or not. The majority view at WRC-95 was that such texts are obligatory, but still many administrations cannot accept that they have to be treated as an obligatory part of the Radio Regulations.

The result is that the complexity of the Radio Regulations does not appear to have been reduced and in fact there is still no firm agreement on the status of provisions employing incorporation by reference are now more confused than before. Because of this ITU Special Committee considered a number of options on the future use of incorporation by reference.

The preliminary agenda for the WRC, now to be held in 2002 or 2003, includes an item 2.10 (see Resolution **722 (WRC-97)** ), for the radio regulatory procedures concerning the maritime mobile and mobile-satellite service, particularly in regard to the completion of the transition to the GMDSS. At this Conference it would be possible to remove references to a large number of ITU-R Recommendations on pre-GMDSS procedures and to review the references to the ITU-R Recommendations related to the GMDSS.

### **IMO Position**

Incorporation by reference is of importance to the IMO because of the close relationship between many of the ITU-R Recommendations related to GMDSS equipment, and its operation, to IMO performance standards.

IMO requests early indication of any changes proposed by the ITU to the mechanism of incorporation by reference and to the list of incorporated recommendations.

IMO requests that the removal of references to ITU-R Recommendations on pre-GMDSS procedures and review of references to the ITU-R Recommendations related to the GMDSS should be undertaken at WRC-2002.

### **WRC-2000 Agenda Item 7.2**

*to recommend to the Council items for inclusion in the agenda for the next WRC, and to give its views on the preliminary agenda for the subsequent Conference and on possible agenda items for future conferences.*

### **Background**

Items 8.3 and 8.4 dealing with maritime issues were originally placed by WRC-97 on the WRC-2000 agenda. These agenda items were subsequently removed from that agenda according to ITU COUNCIL RESOLUTION No 1130 during the 1998 session of the ITU Council

### **IMO Position**

IMO notes with satisfaction that matters related to maritime distress and safety communications are placed on the preliminary agenda (items 2.4, 2.10, 2.11) for the next WRC (WRC-2002). IMO strongly recommends these agenda items be retained on the final agenda for WRC-2002 and to add agenda items postponed from WRC-2000 (items 8.3 and 8.4) to ensure the long term integrity of the GMDSS.

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